

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/689,461

Source: \_\_\_\_\_

Date Processed by STIC: \_\_\_\_\_

# ***ENTERED***



IFWO

## RAW SEQUENCE LISTING

DATE: 10/19/2004

PATENT APPLICATION: US/10/689,461

TIME: 08:56:57

Input Set : N:\Crf3\RULE60\10689461.raw.txt

Output Set: N:\CRF4\10192004\J689461.raw

```

1 <110> APPLICANT: Harrison, Stephen D.
2     Hall, John A.
3     Calderon-Cacia, Maria
4     Zhong, Ziyang
5     Fang, Eric Y.
6     Coit, Doris G.
7     Nguyen, Steve H.
8     Medina-Selby, Angelica
9 <120> TITLE OF INVENTION: GSK3 POLYPEPTIDES
10 <130> FILE REFERENCE: 59516-162/PP-15876.002/200130.524
11 <140> CURRENT APPLICATION NUMBER: US/10/689,461
12 <141> CURRENT FILING DATE: 2003-10-20
13 <150> PRIOR APPLICATION NUMBER: US/10/211,412
14 <151> PRIOR FILING DATE: 2002-07-31
15 <150> PRIOR APPLICATION NUMBER: US09/916,109
16 <151> PRIOR FILING DATE: 2001-07-25
17 <160> NUMBER OF SEQ ID NOS: 11
18 <170> SOFTWARE: FastSEQ for Windows Version 4.0
20 <210> SEQ ID NO: 1
21 <211> LENGTH: 420
22 <212> TYPE: PRT
23 <213> ORGANISM: Homo sapiens
24 <400> SEQUENCE: 1
25     Met Ser Gly Arg Pro Arg Thr Thr Ser Phe Ala Glu Ser Cys Lys Pro
26         1             5             10             15
27     Val Gln Gln Pro Ser Ala Phe Gly Ser Met Lys Val Ser Arg Asp Lys
28         20             25             30
29     Asp Gly Ser Lys Val Thr Thr Val Val Ala Thr Pro Gly Gln Gly Pro
30         35             40             45
31     Asp Arg Pro Gln Glu Val Ser Tyr Thr Asp Thr Lys Val Ile Gly Asn
32         50             55             60
33     Gly Ser Phe Gly Val Val Tyr Gln Ala Lys Leu Cys Asp Ser Gly Glu
34         65             70             75             80
35     Leu Val Ala Ile Lys Lys Val Leu Gln Asp Lys Arg Phe Lys Asn Arg
36         85             90             95
37     Glu Leu Gln Ile Met Arg Lys Leu Asp His Cys Asn Ile Val Arg Leu
38         100            105            110
39     Arg Tyr Phe Phe Tyr Ser Ser Gly Glu Lys Lys Asp Glu Val Tyr Leu
40         115            120            125
41     Asn Leu Val Leu Asp Tyr Val Pro Glu Thr Val Tyr Arg Val Ala Arg
42         130            135            140
43     His Tyr Ser Arg Ala Lys Gln Thr Leu Pro Val Ile Tyr Val Lys Leu
44         145            150            155            160

```

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DATE: 10/19/2004

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TIME: 08:56:57

Input Set : N:\Crif3\RULE60\10689461.raw.txt

Output Set: N:\CRF4\10192004\J689461.raw

```

45   Tyr Met  Tyr  Gln  Leu  Phe  Arg  Ser  Leu  Ala  Tyr  Ile  His  Ser  Phe  Gly
46                               165                               170                               175
47   Ile  Cys  His  Arg  Asp  Ile  Lys  Pro  Gln  Asn  Leu  Leu  Leu  Asp  Pro  Asp
48                               180                               185                               190
49   Thr  Ala  Val  Leu  Lys  Leu  Cys  Asp  Phe  Gly  Ser  Ala  Lys  Gln  Leu  Val
50                               195                               200                               205
51   Arg  Gly  Glu  Pro  Asn  Val  Ser  Tyr  Ile  Cys  Ser  Arg  Tyr  Tyr  Arg  Ala
52                               210                               215                               220
53   Pro  Glu  Leu  Ile  Phe  Gly  Ala  Thr  Asp  Tyr  Thr  Ser  Ser  Ile  Asp  Val
54                               225                               230                               235                               240
55   Trp  Ser  Ala  Gly  Cys  Val  Leu  Ala  Glu  Leu  Leu  Leu  Gly  Gln  Pro  Ile
56                               245                               250                               255
57   Phe  Pro  Gly  Asp  Ser  Gly  Val  Asp  Gln  Leu  Val  Glu  Ile  Ile  Lys  Val
58                               260                               265                               270
59   Leu  Gly  Thr  Pro  Thr  Arg  Glu  Gln  Ile  Arg  Glu  Met  Asn  Pro  Asn  Tyr
60                               275                               280                               285
61   Thr  Glu  Phe  Lys  Phe  Pro  Gln  Ile  Lys  Ala  His  Pro  Trp  Thr  Lys  Val
62                               290                               295                               300
63   Phe  Arg  Pro  Arg  Thr  Pro  Pro  Glu  Ala  Ile  Ala  Leu  Cys  Ser  Arg  Leu
64   305                               310                               315                               320
65   Leu  Glu  Tyr  Thr  Pro  Thr  Ala  Arg  Leu  Thr  Pro  Leu  Glu  Ala  Cys  Ala
66                               325                               330                               335
67   His  Ser  Phe  Phe  Asp  Glu  Leu  Arg  Asp  Pro  Asn  Val  Lys  His  Pro  Asn
68                               340                               345                               350
69   Gly  Arg  Asp  Thr  Pro  Ala  Leu  Phe  Asn  Phe  Thr  Thr  Gln  Glu  Leu  Ser
70                               355                               360                               365
71   Ser  Asn  Pro  Pro  Leu  Ala  Thr  Ile  Leu  Ile  Pro  Pro  His  Ala  Arg  Ile
72   370                               375                               380
73   Gln  Ala  Ala  Ala  Ser  Thr  Pro  Thr  Asn  Ala  Thr  Ala  Ala  Ser  Asp  Ala
74   385                               390                               395                               400
75   Asn  Thr  Gly  Asp  Arg  Gly  Gln  Thr  Asn  Asn  Ala  Ala  Ser  Ala  Ser  Ala
76                               405                               410                               415
77   Ser  Asn  Ser  Thr
78                               420
80 <210> SEQ ID NO: 2
81 <211> LENGTH: 394
82 <212> TYPE: PRT
83 <213> ORGANISM: Homo sapiens
84 <400> SEQUENCE: 2
85   Met  Glu  Tyr  Met  Pro  Met  Glu  Gly  Gly  Gly  Met  Ser  Gly  Arg  Pro  Arg
86   1                               5                               10                               15
87   Thr  Thr  Ser  Phe  Ala  Glu  Ser  Cys  Lys  Pro  Val  Gln  Gln  Pro  Ser  Ala
88   20                               25                               30
89   Phe  Gly  Ser  Met  Lys  Val  Ser  Arg  Asp  Lys  Asp  Gly  Ser  Lys  Val  Thr
90   35                               40                               45
91   Thr  Val  Val  Ala  Thr  Pro  Gly  Gln  Gly  Pro  Asp  Arg  Pro  Gln  Glu  Val
92   50                               55                               60
93   Ser  Tyr  Thr  Asp  Thr  Lys  Val  Ile  Gly  Asn  Gly  Ser  Phe  Gly  Val  Val
94   65                               70                               75                               80

```

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TIME: 08:56:57

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Output Set: N:\CRF4\10192004\J689461.raw

```

95   Tyr Gln Ala Lys Leu Cys Asp Ser Gly Glu Leu Val Ala Ile Lys Lys
96                               85                               90                               95
97   Val Leu Gln Asp Lys Arg Phe Lys Asn Arg Glu Leu Gln Ile Met Arg
98                               100                               105                               110
99   Lys Leu Asp His Cys Asn Ile Val Arg Leu Arg Tyr Phe Phe Tyr Ser
100                              115                              120                              125
101   Ser Gly Glu Lys Lys Asp Glu Val Tyr Leu Asn Leu Val Leu Asp Tyr
102                              130                              135                              140
103   Val Pro Glu Thr Val Tyr Arg Val Ala Arg His Tyr Ser Arg Ala Lys
104                              145                              150                              155                              160
105   Gln Thr Leu Pro Val Ile Tyr Val Lys Leu Tyr Met Tyr Gln Leu Phe
106                               165                               170                               175
107   Arg Ser Leu Ala Tyr Ile His Ser Phe Gly Ile Cys His Arg Asp Ile
108                               180                               185                               190
109   Lys Pro Gln Asn Leu Leu Leu Asp Pro Asp Thr Ala Val Leu Lys Leu
110                               195                               200                               205
111   Cys Asp Phe Gly Ser Ala Lys Gln Leu Val Arg Gly Glu Pro Asn Val
112                               210                               215                               220
113   Ser Tyr Ile Cys Ser Arg Tyr Tyr Arg Ala Pro Glu Leu Ile Phe Gly
114                               225                               230                               235                               240
115   Ala Thr Asp Tyr Thr Ser Ser Ile Asp Val Trp Ser Ala Gly Cys Val
116                               245                               250                               255
117   Leu Ala Glu Leu Leu Leu Gly Gln Pro Ile Phe Pro Gly Asp Ser Gly
118                               260                               265                               270
119   Val Asp Gln Leu Val Glu Ile Ile Lys Val Leu Gly Thr Pro Thr Arg
120                               275                               280                               285
121   Glu Gln Ile Arg Glu Met Asn Pro Asn Tyr Thr Glu Phe Lys Phe Pro
122                               290                               295                               300
123   Gln Ile Lys Ala His Pro Trp Thr Lys Val Phe Arg Pro Arg Thr Pro
124                               305                               310                               315                               320
125   Pro Glu Ala Ile Ala Leu Cys Ser Arg Leu Leu Glu Tyr Thr Pro Thr
126                               325                               330                               335
127   Ala Arg Leu Thr Pro Leu Glu Ala Cys Ala His Ser Phe Phe Asp Glu
128                               340                               345                               350
129   Leu Arg Asp Pro Asn Val Lys His Pro Asn Gly Arg Asp Thr Pro Ala
130                               355                               360                               365
131   Leu Phe Asn Phe Thr Thr Gln Glu Leu Ser Ser Asn Pro Pro Leu Ala
132                               370                               375                               380
133   Thr Ile Leu Ile Pro Pro His Ala Arg Ile
134   385                               390
136 <210> SEQ ID NO: 3
137 <211> LENGTH: 361
138 <212> TYPE: PRT
139 <213> ORGANISM: Homo sapiens
140 <400> SEQUENCE: 3
141   Met Glu Tyr Met Pro Met Glu Gly Gly Gly Gly Ser Lys Val Thr Thr
142       1               5               10               15
143   Val Val Ala Thr Pro Gly Gln Gly Pro Asp Arg Pro Gln Glu Val Ser
144               20               25               30

```

## RAW SEQUENCE LISTING

DATE: 10/19/2004

PATENT APPLICATION: US/10/689,461

TIME: 08:56:58

Input Set : N:\Crif3\RULE60\10689461.raw.txt

Output Set: N:\CRF4\10192004\J689461.raw

```

145   Tyr Thr Asp Thr Lys Val Ile Gly Asn Gly Ser Phe Gly Val Val Tyr
146               35                     40                     45
147   Gln Ala Lys Leu Cys Asp Ser Gly Glu Leu Val Ala Ile Lys Lys Val
148               50                     55                     60
149   Leu Gln Asp Lys Arg Phe Lys Asn Arg Glu Leu Gln Ile Met Arg Lys
150   65                     70                     75                     80
151   Leu Asp His Cys Asn Ile Val Arg Leu Arg Tyr Phe Phe Tyr Ser Ser
152               85                     90                     95
153   Gly Glu Lys Lys Asp Glu Val Tyr Leu Asn Leu Val Leu Asp Tyr Val
154               100                    105                    110
155   Pro Glu Thr Val Tyr Arg Val Ala Arg His Tyr Ser Arg Ala Lys Gln
156               115                    120                    125
157   Thr Leu Pro Val Ile Tyr Val Lys Leu Tyr Met Tyr Gln Leu Phe Arg
158               130                    135                    140
159   Ser Leu Ala Tyr Ile His Ser Phe Gly Ile Cys His Arg Asp Ile Lys
160   145                    150                    155                    160
161   Pro Gln Asn Leu Leu Leu Asp Pro Asp Thr Ala Val Leu Lys Leu Cys
162               165                    170                    175
163   Asp Phe Gly Ser Ala Lys Gln Leu Val Arg Gly Glu Pro Asn Val Ser
164               180                    185                    190
165   Tyr Ile Cys Ser Arg Tyr Tyr Arg Ala Pro Glu Leu Ile Phe Gly Ala
166               195                    200                    205
167   Thr Asp Tyr Thr Ser Ser Ile Asp Val Trp Ser Ala Gly Cys Val Leu
168               210                    215                    220
169   Ala Glu Leu Leu Leu Gly Gln Pro Ile Phe Pro Gly Asp Ser Gly Val
170   225                    230                    235                    240
171   Asp Gln Leu Val Glu Ile Ile Lys Val Leu Gly Thr Pro Thr Arg Glu
172               245                    250                    255
173   Gln Ile Arg Glu Met Asn Pro Asn Tyr Thr Glu Phe Lys Phe Pro Gln
174               260                    265                    270
175   Ile Lys Ala His Pro Trp Thr Lys Val Phe Arg Pro Arg Thr Pro Pro
176               275                    280                    285
177   Glu Ala Ile Ala Leu Cys Ser Arg Leu Leu Glu Tyr Thr Pro Thr Ala
178               290                    295                    300
179   Arg Leu Thr Pro Leu Glu Ala Cys Ala His Ser Phe Phe Asp Glu Leu
180   305                    310                    315                    320
181   Arg Asp Pro Asn Val Lys His Pro Asn Gly Arg Asp Thr Pro Ala Leu
182               325                    330                    335
183   Phe Asn Phe Thr Thr Gln Glu Leu Ser Ser Asn Pro Pro Leu Ala Thr
184               340                    345                    350
185   Ile Leu Ile Pro Pro His Ala Arg Ile
186               355                    360
188 <210> SEQ ID NO: 4
189 <211> LENGTH: 483
190 <212> TYPE: PRT
191 <213> ORGANISM: Homo sapiens
192 <400> SEQUENCE: 4
193   Met Ser Gly Gly Gly Pro Ser Gly Gly Gly Pro Gly Gly Ser Gly Arg
194   1                     5                     10                     15

```

## RAW SEQUENCE LISTING

DATE: 10/19/2004

PATENT APPLICATION: US/10/689,461

TIME: 08:56:58

Input Set : N:\Crif3\RULE60\10689461.raw.txt

Output Set: N:\CRF4\10192004\J689461.raw

```

195  Ala Arg Thr Ser Ser Phe Ala Glu Pro Gly Gly Gly Gly Gly Gly Gly
196                20                25                30
197  Gly Gly Gly Pro Gly Gly Ser Ala Ser Gly Pro Gly Gly Thr Gly Gly
198                35                40                45
199  Gly Lys Ala Ser Val Gly Ala Met Gly Gly Gly Val Gly Ala Ser Ser
200                50                55                60
201  Ser Gly Gly Gly Pro Gly Gly Ser Gly Gly Gly Ser Gly Gly Pro
202        65                70                75                80
203  Gly Ala Gly Thr Ser Phe Pro Pro Pro Gly Val Lys Leu Gly Arg Asp
204                85                90                95
205  Ser Gly Lys Val Thr Thr Val Val Ala Thr Leu Gly Gln Gly Pro Glu
206                100               105               110
207  Arg Ser Gln Glu Val Ala Tyr Thr Asp Ile Lys Val Ile Gly Asn Gly
208                115               120               125
209  Ser Phe Gly Val Val Tyr Gln Ala Arg Leu Ala Glu Thr Arg Glu Leu
210                130               135               140
211  Val Ala Ile Lys Lys Val Leu Gln Asp Lys Arg Phe Lys Asn Arg Glu
212        145               150               155               160
213  Leu Gln Ile Met Arg Lys Leu Asp His Cys Asn Ile Val Arg Leu Arg
214                165               170               175
215  Tyr Phe Phe Tyr Ser Ser Gly Glu Lys Lys Asp Glu Leu Tyr Leu Asn
216                180               185               190
217  Leu Val Leu Glu Tyr Val Pro Glu Thr Val Tyr Arg Val Ala Arg His
218                195               200               205
219  Phe Thr Lys Ala Lys Leu Thr Ile Pro Ile Leu Tyr Val Lys Val Tyr
220        210               215               220
221  Met Tyr Gln Leu Phe Arg Ser Leu Ala Tyr Ile His Ser Gln Gly Val
222        225               230               235               240
223  Cys His Arg Asp Ile Lys Pro Gln Asn Leu Leu Val Asp Pro Asp Thr
224                245               250               255
225  Ala Val Leu Lys Leu Cys Asp Phe Gly Ser Ala Lys Gln Leu Val Arg
226                260               265               270
227  Gly Glu Pro Asn Val Ser Tyr Ile Cys Ser Arg Tyr Tyr Arg Ala Pro
228                275               280               285
229  Glu Leu Ile Phe Gly Ala Thr Asp Tyr Thr Ser Ser Ile Asp Val Trp
230        290               295               300
231  Ser Ala Gly Cys Val Leu Ala Glu Leu Leu Leu Gly Gln Pro Ile Phe
232        305               310               315               320
233  Pro Gly Asp Ser Gly Val Asp Gln Leu Val Glu Ile Ile Lys Val Leu
234                325               330               335
235  Gly Thr Pro Thr Arg Glu Gln Ile Arg Glu Met Asn Pro Asn Tyr Thr
236                340               345               350
237  Glu Phe Lys Phe Pro Gln Ile Lys Ala His Pro Trp Thr Lys Val Phe
238                355               360               365
239  Lys Ser Arg Thr Pro Pro Glu Ala Ile Ala Leu Cys Ser Ser Leu Leu
240        370               375               380
241  Glu Tyr Thr Pro Ser Ser Arg Leu Ser Pro Leu Glu Ala Cys Ala His
242        385               390               395               400
243  Ser Phe Phe Asp Glu Leu Arg Cys Leu Gly Thr Gln Leu Pro Asn Asn

```

RAW SEQUENCE LISTING ERROR SUMMARY      DATE: 10/19/2004  
PATENT APPLICATION:    US/10/689,461      TIME: 08:56:59

Input Set : N:\Crf3\RULE60\10689461.raw.txt  
Output Set: N:\CRF4\10192004\J689461.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:11; Xaa Pos. 2,3,4

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/689,461

DATE: 10/19/2004

TIME: 08:56:59

Input Set : N:\Crf3\RULE60\10689461.raw.txt

Output Set: N:\CRF4\10192004\J689461.raw

L:464 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0